WHAT IS CLAIMED IS:

1. A method of neutralizing contaminants for an optical mouse, the method comprising:

providing a mouse containing an optics module including an at least partially coherent light source with at least one surface of the optics module exposed to an opening of the mouse; and

interposing a barrier in the mouse between a contaminant and the at least one exposed surface.

2. The method of claim 1 wherein interposing a barrier comprises:

repelling the contaminant with a coating on a portion of the at least one exposed surface of the optics module with at least one of an anti-static coating and as an anti-static surface.

3. The method of claim 1 wherein interposing a barrier comprises:

positioning a transparent element within the opening of the mouse with a first surface spaced from and facing the at least one exposed surface of the optics module and a second surface configured to face a navigation surface;

defining the transparent element with a thickness and the second surface as a hard, optically smooth surface, to enable the second surface to move in sliding contact over the navigation surface.

4. The method of claim 1 wherein interposing a barrier comprises:

defining a path, between the opening of the mouse and the exposed surface of the optics module, having at least one wall surface configured to attract and retain contaminants to the wall surface.

5. The method of claim 1 wherein interposing a barrier comprises:

defining the at least one exposed surface as an exterior surface of an illumination lens of the optics module and an exterior surface of an imaging lens of the optics module;

substantially maximizing a distance between the exterior surface of the illumination lens and a navigation surface; and

substantially maximizing a distance between the exterior surface of the imaging lens and an imaging sensor of the optics module.

6. A method of detecting contaminants with an optical mouse, the method comprising:

aligning an optics module of a mouse with an imaging surface;

obtaining a first image of the imaging surface, via application of substantially coherent illumination from the optics module to the imaging surface;

analyzing the first image to identify an interference pattern associated with a contaminant; and

identifying the interference pattern as a contaminant if a parameter of the interference pattern exceeds a threshold value.

7. The method of claim 6 wherein aligning an optics module comprises:

positioning the imaging surface on a cradle configured to removably receive the mouse; and

implementing the imaging surface as a substantially reflective surface.

8. The method of claim 6 and further comprising:

obtaining a second image of the imaging surface, via application of non-coherent illumination from the optical module to the imaging surface;

wherein analyzing the first image comprises comparing the first image to the second image for differences between the first image and the second image to identify the interference pattern.

9. The method of claim 8 aligning the optics module of the mouse comprises:

positioning the imaging surface on a cradle as a known imaging surface; and

removably inserting the mouse into the cradle to align the at least one exposed surface of the optics module with the known imaging surface.

10. The method of claim 8 wherein aligning the optics module with an imaging surface comprises operating the mouse over a navigation surface;

wherein obtaining the first image comprises periodically obtaining a series of first images of the navigation surface, via application of substantially coherent illumination from the optical module to the navigation surface;

wherein obtaining a second image comprises periodically obtaining a series of second images of the navigation imaging surface, via application of non-coherent illumination from the optical module to the navigation surface;

wherein analyzing the first image comprises comparing the series of first images to the series of second images for differences to identify the interference pattern.

11. A method of cleaning an optical mouse with a cradle, the method comprising:

removably inserting an optical mouse into the cradle; and

applying a force from the cradle to an optics module of the optical mouse to remove contaminants from at least one exposed surface of the optics module.

12. The method of claim 11 wherein applying a force to an optics module comprises:

directing a flow of pressurized gas from the cradle onto the at least one exposed surface of the optics module.

13. The method of claim 12 wherein directing a flow of pressurized gas comprises delivering the flow of gas from at least one of:

an internal gas compressor;

a refillable, removable gas container;

a thermal gas burst generator; and

a gas connector that is connectable to an external gas source.

14. The method of claim 11 wherein applying a force to an optics module comprises:

causing relative movement between a particulate remover of the cradle and the at least one exposed surface of the optics module.

15. The method of claim 14 wherein causing relative movement between the particulate remover and the at least one exposed surface of the optics module comprises:

positioning a stationary particulate remover on a support surface of the cradle; and

slidably receiving the mouse along the support surface to cause the surface of the optics module of the mouse to move past the particulate remover.

16. The method of claim 14 wherein causing relative movement between the particulate remover and the surface of the optics module comprises:

positioning a moveable particulate remover on a support surface of the cradle; and

removably receiving the mouse adjacent to the support surface to enable movement of the moveable particulate remover against the at least one exposed surface of the optics module.

17. A contaminant-resistant optical mouse, the mouse comprising:

a housing having a surface with an opening;

a optics module including a substantially coherent light source disposed within the housing with at least one surface of the optics module exposed to the opening of the housing; and

a barrier structure between the at least one exposed surface and an environment external to the opening.

18. The mouse of claim 17 wherein the barrier structure comprises:

a transparent contaminant-repelling coating on the at least one exposed surface.

19. The mouse of claim 17 wherein the barrier structure comprises:

at least one wall extending at least a portion of a distance between the opening and the at least one exposed surface, the wall having an attractant configured to attract and capture contaminants.

20. The mouse of claim 17 wherein the barrier structure comprises:

a transparent element positioned to block the opening of the housing.

21. The mouse of claim 17 wherein the barrier structure comprises:

a separation arrangement that substantially maximizes a distance between at least one of the at least one exposed surface and an imaging sensor and

the at least one exposed surface and a navigation surface.

22. A contaminant-neutralizing cradle comprising:

a base and a support surface configured to removably receive a substantially coherent-illuminated mouse; and

a neutralizing element positioned on the support surface for alignment with at least one exposed surface of an optics module of the mouse and configured to neutralize the optical effect of a contaminant on the at least one exposed surface.

23. The cradle of claim 22 wherein the neutralizing element comprises:

a particulate remover comprising at least one of a static cleaning element and a moveable cleaning element.

24. The cradle of claim 22 wherein the neutralizing element comprises:

a pressurized gas mechanism configured to apply a burst of gas onto the at least one exposed optical surface.

25. The cradle of claim 24 wherein the pressurized gas mechanism comprises at least one of:

an internal gas compressor;

a refillable, removable gas container;

a thermal gas burst generator; and

a gas connector that is connectable to an external gas source.

26. The cradle of claim 22 wherein the neutralizing element comprises:

an imaging surface configured to enhance imaging by the mouse of interference patterns caused by contaminants on the at least one exposed surface of the optics module of the mouse.

27. A contaminant-detecting optical mouse comprising:

a housing having a surface with an opening;

an optics module contained within the housing and including;

a substantially coherent light source and a non-coherent light source arranged to independently generate reflected light from an imaging surface external to the housing;

at least one surface of the optics module exposed to the opening of the housing;

at least one sensor configured to obtain a first image of the reflected light generated by the substantially coherent light source and a second image of the reflected light generated by the non-coherent light source; and

a comparison module configured to evaluate differences between the first image and the second image for interference patterns that indicate a contaminant on the at least one exposed surface of the optics module.